

REMARKS

Claims 1-16 are pending in this application. Claims 1 and 3-6 have been amended in several particulars for purposes of clarity and brevity that are unrelated to patentability and prior art rejections while Claims 7-16 have been newly added in accordance with current Office policy, to further and alternatively define Applicants' disclosed invention and to assist the Examiner to expedite compact prosecution of the instant application.

Claims 1 and 5-6 have been rejected under 35 U.S.C. §102(b) as being anticipated by Nishikawa Toru et al., Japanese Patent No. 11-295560 for reasons stated on page 2 of the Office Action. For purposes of expedition, base claims 1, 5 and 6 have been amended to further clarify the structural relationship between the optical isolator 4 and the pipe-like support 10 as shown in FIGs. 1-4, that is **not** disclosed or suggested by Nishikawa Toru et al., Japanese Patent No. 11-295560, in order to overcome the rejection and to render the rejection moot. For example, base claim 1 has been amended to further define "wherein said optical isolator is joined on its whole perimeter to said pipe-like support member at a distal end thereof so as to be fixed to said pipe-like support member". Similarly, base claim 5 has been amended to further define "wherein one end of said optical fiber is bonded to the top surface of said substrate member, and then said **optical isolator is welded on its whole perimeter to a pipe-like support member at a distal end thereof, which support member is provided on the side face of said package case.**" Likewise, base claim 6 has been defined to further define "wherein said substrate member and said optical semiconductor element are provided on the top surface of said thermoelectric

cooler, and **said optical isolator is fixed on its whole perimeter to a pipe-like support member at a distal end thereof**, which support member is projected from the side face of said package case.” In view of the foregoing amendments to base claims 1, 5 and 6, Applicants respectfully submit that the rejection is now moot and should be withdrawn.

To the extent that Nishikawa Toru et al., Japanese Patent No. 11-295560, may still be applicable, Applicants respectfully traverse the rejection for reasons discussed herein below.

As expressly defined in Applicants’ base claims 1, 5 and 6, the optical transmitter module is characterized of providing a pipe-like support member projecting from the side face of the package case for fixing the optical isolator, and of be formed so that the optical isolator is fixed by welding on its whole perimeter to the pipe-like support member, so as to arrange the isolator at the distal end of the projecting support member. As a result, the heat generated from the optical semiconductor element can be efficiently removed, and even if the heat deformation is caused in the package case or the like and the external force is applied due to the heat deformation, the optical fiber can be stably assembled to the substrate member so as to prevent the efficiency in the optical fiber from deterioration. Therefore, the semiconductor laser element can provide a stable laser operation.

Furthermore, since the optical isolator is now mounted in the pipe-like support member, and **not** on the substrate member, the heat capacity can now be controlled by the electronic cooling element to the substrate member mounted on the electronic cooling element and the elements mounted on the substrate member to be smaller than that to the substrate member, the elements and the optical isolator. Likewise,

the heat generated from the semiconductor elements can now be efficiently removed. As a result, the heat influence to the ending of the optical fiber can be advantageously minimized, and stable laser transmission can be obtained.

In contrast to Applicants' base claims 1, 5 and 6, Nishikawa '560 discloses a well-know optical structure in which both the optical semiconductor element and the optical isolator are mounted on the common Peltier element. As shown in FIG. 7, the small isolator 213 is mounted on the base 202. In Fig. 1, the numeral 112 denotes a fixing resin for fixing the optical fiber 105.

However, Nishikawa '560 does **not** disclose or suggest the structure of "providing the pipe-like support member projecting from the side face of the package case for fixing the optical isolator, and jointing the optical isolator on its whole perimeter to the pipe-like support member at the distal end side thereof so as to be fixed to the support member" as generally defined in Applicants' base claims 1, 5 and 6. As a result, Nishikawa '560 does **not** address and cannot achieve the function and the unexpected effect according to Applicants' disclosed invention.

Specifically, the isolator 213, as shown in FIG. 7 of Nishikawa '560 is mounted on the base 202, but is **not** joined to the pipe-like member 111, as expressly defined in Applicants' base claims 1, 5 and 6. Likewise, the fixing resin 112, as shown in Fig. 1, is used to fix the optical fiber 105, and does **not** denote an inline optical isolator, as expressly defined in Applicants' base claims 1, 5 and 6.

The rule under 35 U.S.C. §102 is well settled that anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. In re Paulsen, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); In re Spada, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Those elements must

either be inherent or disclosed expressly and must be arranged as in the claim.

Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989);
Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 7 USPQ2d 1057 (Fed.
Cir. 1988); Verdegall Bros., Inc. v. Union Oil Co., 814 F.2d 628, 2 USPQ2d 1051
(Fed. Cir. 1987). The corollary of that rule is that absence from the reference of
any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc.,
793 F.2d 1565, 230 USPQ2d 81 (Fed. Cir. 1986).

The burden of establishing a basis for denying patentability of a claimed invention rests upon the Examiner. The limitations required by the claims cannot be ignored. See In re Wilson, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). All claim limitations, including those which are functional, must be considered. See In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981). Hence, all words in a claim must be considered in deciding the patentability of that claim against the prior art. Each word in a claim must be given its proper meaning, as construed by a person skilled in the art. Where required to determine the scope of a recited term, the disclosure may be used. See In re Barr, 444 F.2d 588, 170 USPQ 330 (CCPA 1971).

In the present situation, Nishikawa '560 fails to disclose and suggest all features of Applicants' base claims 1, 5 and 6. Therefore, Applicants respectfully request that the rejection of Applicants' base claims 1, 5 and 6 and their respective dependents be withdrawn.

Claim 2 has been rejected under 35 U.S.C. §103 as being unpatentable over Nishikawa Toru, Japanese Patent No. 11-295560 in view of Timmerman, U.S. Patent No. 4,137,060 for reasons stated on page 3 of the Office Action (Paper No. 6).

Claim 3 has been rejected under 35 U.S.C. §103 as being unpatentable over Nishikawa Toru, Japanese Patent No. 11-295560 in view of Shibukawa et al., U.S. Patent No. 5,049,429, or alternatively, in view of Lemaire et al., U.S. Patent No. 5,478,371 for reasons stated on page 3 of the Office Action (Paper No. 6).

Separately, claim 4 has been rejected under 35 U.S.C. §103 as being unpatentable over Nishikawa Toru, Japanese Patent No. 11-295560 in view of Eales et al., U.S. Patent No. 4,615,031 for reasons stated on page 4 of the Office Action (Paper No. 6). Lastly, claim 7 has been rejected under 35 U.S.C. §103 as being unpatentable over Nishikawa Toru, Japanese Patent No. 11-295560 in view of Keil et al., U.S. Patent No. 4,767,171 for reasons stated on page 4 of the Office Action (Paper No. 6). Since these rejections are predicated upon the correctness of the rejection of Applicants' base claims 1, 5 and 6 under 35 U.S.C. §102, Applicants respectfully traverse these rejections primarily for the same reasons discussed against the rejection of Applicants' base claims 1, 5 and 6.

Claims 8-16 have been newly added to alternatively define Applicants' disclosed invention over the prior art of record. A fee of \$86.00 is incurred by the addition one independent claim. These claims are believed to be allowable at least for the same reasons discussed against all the outstanding rejections of the instant application. In addition, claims 8-10 further define that "said optical fiber positioned between said optical isolator and said pipe-like support member is arranged in a bent state." Since the optical fiber positioned between the optical isolator and the fixed support member is arranged in the bent condition so as to effectively absorb the influence of the external force, it is possible to stably improve the fixing of the optical

fiber on the substrate member for optically coupling with the optical semiconductor element.

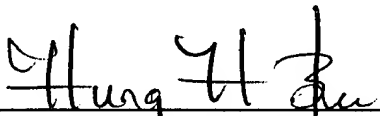
In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage of fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, No. 01-2135 (Application No. 500.39005X00), and please credit any excess fees to said deposit account.

Respectfully submitted,

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